CERCLA

FIVE YEAR REVIEW

SUMMIT NATIONAL SITE
DEERFIELD, OHIO

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FIVE-YEAR REVIEW REPORT

SUMMIT NATIONAL SUPERFUND SITE

DEERFIELD, OHIO

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PREPARED BY:

OHIO ENVIRONMENTAL PROTECTION AGENCY

FOR

U.S. EPA, REGION V, CHICAGO, ILLINOIS

Five-Year Review Report
Summit National Site, Deerfield, Ohio

I. INTRODUCTION

The Ohio Environmental Protection Agency (OEPA) has conducted a statutory Five-Year Review of the Remedial Action (RA) implemented at the Summit National Site (SNS), Deerfield, Ohio. This review is intended to evaluate the continued protectiveness of the RA toward public health and the environment.

Section 121 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substance Contingency Plan (NCP) requires that periodic (no less often than five years) reviews are to be conducted for sites where hazardous substances, pollutants or contaminants remain at the site above levels that will not allow unlimited use or unrestricted exposure following the completion of all remedial actions at the site.

II. SITE BACKGROUND

SNS, also known as the Deerfield Dump, is located in Portage County, Deerfield Township, at the southeast corner of the intersection of State Routes 224 and 225. In 1973 Summit National Liquid Disposal Services, owned by Donald Georgeoff, constructed an incinerator (18,000 gal./month) on this 11-acre property which was formerly used as a coal wash pond and stockpile for local strip-mining operations.

The city of Akron, Division of Air Pollution Control granted the facility a Permit to Operate effective on May 19, 1974. In June of 1975 the Ohio Department of Natural Resources brought the site to the attention of Ohio EPA in regard to the inadequate storage and disposal of industrial wastes and the unauthorized discharge of wastewater. The allegations were confirmed by Ohio EPA and the Agency contacted SNS in regard to eliminating the violations. In September of 1976 Ohio EPA acquired information that SNS had received hexachlorocyclopentadiene (HCP), an intermediate in the production of kepone, however, SNS did not have the facilities to dispose of any wastes other than unsubstituted hydrocarbons.

In the mean time, SNS had also constructed an approximate 326,000 gallon unlined, dirt floor, concrete block storage tank. Site investigations revealed that the tank was cracked and leaking liquid waste onto the ground. In addition, many of the approximately 17,000 drums stored on the site were observed to be leaking. Samples collected and analyzed by USEPA confirmed that HCP, chlorinated hydrocarbons and mirex were present.

In December of 1976, SNS was notified that it was in violation of laws and regulations pertaining to the treatment and disposal of industrial wastes.

On June 12, 1978, the Director of the Ohio EPA issued final Findings and Orders to SNS requiring the facility to cease receiving any additional waste material until detailed plans for receiving, storage and disposal of such wastes were submitted to and approved by Ohio EPA.

In 1980, the Site was fenced and graded by Ohio EPA to control access and drainage. Three liquid storage tanks, their contents and some contaminated soil were removed at that time.

Additional tanks, drums, surface debris and soil were removed in 1981 in a $2.5 million clean up following an agreement reached between Ohio EPA and a group of potentially responsible parties.

SNS was placed on the National Priorities List (NPL) in 1983. A Remedial Investigation and Feasibility Study (RI/FS) was conducted from 1984 to 1987. This led to a Record of Decision (ROD) and a proposed Remedial Action Plan in June 1988. Following amendments to the ROD in November 1990, the Consent Decree was entered in U.S. District Court for the Northern District of Ohio, Eastern Division, on June 11, 1991.

III. RESULTS OF SITE INVESTIGATIONS

The Remedial Investigation (RI) was conducted between October 1984 and September 1986. The Final RI Report was issued on February 10, 1988.

Phase I RI activities included a geophysical study, monitoring well installation and sampling, hydrogeologic testing, on-site and off-site surface water sampling, sediment sampling, surface soil sampling, residential well sampling, on-site tank sampling and air sampling.

Phase II RI activities included additional monitoring well installation, surface and subsurface soil sampling, hydrogeologic testing, surface water and sediment sampling, residential well sampling as well as test pit excavation, surveying existing structures, buried drum and tank sampling and disposal of RI derived waste.

Three hydrogeologic units were identified at the Site: the water table unit (WTU), the upper and lower intermediate units (UIU and LIU); and the Upper Sharon aquifer. Groundwater flows generally to the southeast in the WTU and the UIU, and generally to the west in the LIU. The Upper Sharon aquifer flows northward.

Shallow on-site groundwater in the WTU and UIU was found to be contaminated with a number of organic compounds, including 2-butanone, phenol, toluene and bis-2 ethyl hexylphthalate. The highest concentrations were in the southwest quarter of the site and generally decrease from west to east.

Of the deeper intermediate unit wells, only MW-24 was found to be contaminated. The Upper Sharon aquifer was not contaminated nor were any of the residential wells found to be above background.

On-site surface and subsurface soils (down to 8 ft.) were found to have levels of numerous organic and inorganic contaminants up to several orders of magnitude above background. Off-site soils to the south and east of the Site also were found to contain PAHs, PCBs and other organics above background.

On-site surface water and sediment was found to be contaminated with organics and metals. Off-site surface water and sediment in the ditches along the south and southeast edges of the Site were also contaminated with organics and metals.

Air sampling and monitoring during the RI suggested that air contamination should not be a problem unless there is a surface disturbance at the Site. Radiation was not found to be a concern at the site.

Results of the buried material investigation indicated that three buried storage tanks and an estimated 900 to 1,600 buried drums may have been present at the Site.

The public health evaluation determined that potential risks to human health exist at SNS under general exposure scenarios. Inorganic and organic soil contamination, groundwater, surface water and sediment contamination at the Site was found to pose a threat to public health, welfare and the environment.

IV. REMEDIAL OBJECTIVES

The remedial objectives for SNS were to reduce the mass of contaminants at the Site, present direct and indirect contact by people with Site contaminants to present the spread of contaminated groundwater and to reduce Site contaminant levels over the long term.

V. SUMMARY OF RESPONSE ACTIONS

A. Groundwater Treatment System (GWTS)

Construction of the GWTS and related activities commenced on July 22, 1993 and was substantially completed on May 16, 1994. Treatment and discharge of pond and construction related surface water commenced on May 19, 1994. Treatment and discharge of groundwater began on June 9, 1994. Treatment and discharge of groundwater and surface water was done in accordance with the requirements of a substantive permit issued by Ohio EPA on May 18, 1994 and as amended on November 22, 1994.

B. Groundwater Extraction System (GES)

Construction of the GES commenced on June 7, 1994 with excavation for installation of a wet well. Installation of a pipe and media drain was performed between July 7 and September 9, 1994. In addition to the wet well and pipe and media drain which were installed to passively collect groundwater from the water table unit, extraction wells were installed into the deeper unit (intermediate unit) to actively pump the lower unit in order to facilitate hydraulic containment. These were installed between July 27 and September 22, 1994 and commenced operation on December 1, 1994. The active groundwater extraction system was shut down on May 3, 1995 after an evaluation showed that the system was not providing an effective horizontal area of capture due to the low permeability of the intermediate unit. There was also concern that continued operation of the extraction system might result in downward migration of contaminated water from the WTU.

C. Soil Removal and Treatment

This phase of the remedy consisted of excavation of surficial soils, excavation of approximately 1,000 buried containers (most were crushed and empty) and associated soil. The containers were sent off-site for disposal and the soil was thermally treated by an on-site mobile incinerator. An incineration performance demonstration was done as well as air modeling and air monitoring. Thermal treatment of soil commenced on August 1, 1994 and was completed on April 3, 1995.

D. Final Site Cover

The final site cover construction took place between June 1 and June 15, 1995 and consisted of importation and placement of 18 inches of clean sandy loam overlain by 6 inches of clean imported top soil. On August 3 and 4, 1995, the cover was planted with a mixture of grasses.

VI. SUMMARY OF SITE VISIT AND RECOMMENDATIONS

The SNS Site was last visited on July 13, 1998 by the Ohio EPA site coordinator. The purpose of the visit was to evaluate the condition and protectiveness of the Site cover, security fence, groundwater containment and collection system, groundwater treatment plant and monitoring system.

The Site soil cover is in good condition with no evidence of erosion or surface water ponding. The vegetative cover is also in good condition.

The Site fence is intact and well marked. The only entry into the Site is through the main gate near the groundwater treatment plant (GWTP). The GWTP is manned on a daily basis and well maintained. Ohio EPA receives and reviews monthly reports on the operation of the GWTP.

The groundwater extraction system has been in operation since June 1994. It has been anticipated that it will take many years, perhaps decades, to achieve the final cleanup goals for groundwater. Groundwater treatment plant influent concentration data and data from groundwater monitoring indicate that the more contaminated groundwater has not yet migrated to the collection system and the final cleanup goals for groundwater have not been met.

Ohio EPA does not at this time see a need for changes in the operation and maintenance of the Summit National Site.

VII. ARAR REVIEW

The major ARARs (applicable or relevant and appropriate requirements) identified in the Feasibility Study (FS) were the Resource Conservation and Recovery Act (RCRA), the Clean Air Act (CAA), the National Pollutant Discharge Elimination System (NPDES) and Ohio Water Quality Standards. A federal ARAR not identified in the FS but added during the Remedial Design stage following an informal dispute resolution was the Toxic Substance Control Act (TSCA). This was added because of the presence of PCBs in soils at concentrations greater than 50 mg/kg.

Compliance with ARARs during remedial construction was assured through oversight by both USEPA and Ohio EPA.

The only activities continuing at the site are the operation of the GWTP, periodic groundwater and hydrological monitoring and maintenance of the Site fence, cover and physical plant.

A review of the current activities of the Site and the monthly reporting of the operation of the GWTP as well as the quarterly groundwater monitoring and hydraulic containment reports does not indicate a need for any changes in the current requirements for operation and maintenance at the Site. The conditions and activities at the Site remain in compliance with ARARs.

VIII. STATEMENT OF PROTECTIVENESS

Ohio EPA certifies that the remedies selected and implemented at the SNS Site remain protective of human health and the environment.

IX. NEXT REVIEW

Hazardous substances, pollutants or contaminants will remain at the SNS Site which will not allow for unrestricted use. Ohio EPA will conduct another Five-Year Review by July 22, 2003. This will be a Level I Review, consisting of a review of all groundwater monitoring data, and groundwater treatment plant monthly reports, a Site inspection and any newly promulgated environmental laws.